

# GLOSSARY

## Α

## acid gas

A gas produced in the combustion process. It contains acid components such as sulfides and chlorides.

#### actinomycete

A group of microorganisms, intermediate between bacteria and true fungi, that usually produce a characteristic branched mycelium. These organisms are responsible for the earthy smell of compost.

#### active gas collection

A technique that forcibly removes gas from a landfill by attaching a vacuum or pump to a network of pipelines in the landfill or surrounding soils to remove the gases.

#### aeration

The process of exposing bulk material, like compost, to air. Forced aeration refers to the use of blowers in compost piles.

#### aerated static pile

Forced aeration method of composting in which a freestanding composting pile is aerated by a blower moving air through perforated pipes located beneath the pile.

#### aerobic

A biochemical process or condition occurring in the presence of oxygen.

#### aerobic decomposition

A type of decomposition that requires oxygen.

#### air classifier

A device used to separate materials at a facility such as a MRF. Air in the form of a wind is used to blow lighter materials off and away from the heavier materials.

#### anaerobic decomposition

A type of decomposition that does not use oxygen. Anaerobic decomposition creates odor problems; aerobic decomposition does not.

#### aquifer

A geological formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs.

#### area fil

A method of landfilling that compacts the refuse in cells and then uses soil cover to separate and cover the cells. This is typically done in layers and in separate phases.

#### ash quench water

Water that is used to cool the bottom ash when it is removed from an incinerator.

## ash residues

The left-over material from a combustion process. They may take the form of fly ash or bottom ash.

#### attenuation

A process of converting and destroying a chemical compound as it passes through layers of soil or rock.

#### avoided cost

The amount of money saved when another less costly option that yields the same result is selected or used.

## В

## baghouse

A municipal waste combustion facility air emission control device consisting of a series of fabric filters through which flue gases are passed to remove particulates prior to atmospheric dispersion.

#### baler

A machine used to compress recyclables into bundles to reduce volume. Balers are often used on newspaper, plastics, and corrugated cardboard.

#### baling

The compaction of solid waste (shredded or non-shredded) or plastic and metal recyclables (flattened or non-flattened) into small rectangular blocks or bales. Baled solid waste is placed in a landfill in a similar fashion as a cell, with cover surrounding a bale or group of bales. Baling recyclable materials makes them easier to handle and transport.

#### bentonite

A type of soil that swells greatly in the presence of water. Because bentonite impedes the flow of water, it is used for liners, covers, and various other landfill applications.

## berm

An elongated pile of soil used to control and direct the flow of surface water runoff. Berms may also be used to block out noise and screen operations from public view.

#### bio-accumulation

The retaining and accumulation over time of certain chemical compounds in organic matter such as the tissues of plants and animals used as food sources.

## biodegradable material

Materials that can be broken down by microorganisms into simple, stable compounds such as carbon dioxide and water. Most organic materials, such as food scraps and paper, are biodegradable.

#### bottle bil

A law requiring deposits on beverage containers (see Container Deposit Legislation).

#### bottom ash

The remaining noncombustible material collected on grates or in other locations during the combustion process .

#### hrokor

An individual or group of individuals who act as agents or intermediaries between the sellers and buyers of recyclable materials or waste services.

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#### Btu (British thermal unit)

A unit of measure for the amount of energy a given material contains (e.g., energy released as heat during combustion is measured in Btu's.) Technically, one Btu is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit.

#### buffer zone

Neutral area serving as a protective barrier separating two conflicting forces. An area that minimizes the impact of pollutants on the environment or public welfare. For example, a buffer zone is established between a composting facility and neighboring residents to minimize odor problems.

#### bulking agent

A material used to add volume to another material to make the second material more porous, which increases air flow. For example, municipal solid waste may act as a bulking agent when mixed with water treatment sludge.

#### bulky items

Large items of refuse including, but not limited to, appliances, furniture, large auto parts, nonhazardous construction and demolition materials, trees, branches, and stumps that cannot be handled by normal solid waste processing, collection, or disposal methods.

## buy-back center

A facility to which individuals bring recyclables in exchange for payment.

## C

#### canyon fill

A method of landfilling that is similar to area filling but is used primarily in mountainous terrain. Canyon fill landfills are typically much deeper than other types of landfills.

## clamshell bucket

A bucket attachment for a crane. The bucket has two sides that come together when picking up material.

#### co-composting

Simultaneous composting of two or more diverse feedstocks.

## co-generation

Simultaneous generation of electricity and thermal energy.

#### commercial waste

Waste materials originating in wholesale, retail, institutional, or service establishments, such as office buildings, stores, markets, theaters, hotels, and warehouses.

## commingled recyclables

Two or more recyclable materials collected together (i.e., not separated). In some types of collection programs, recyclable materials may be commingled, as long as they do not contaminate each other. For example, glass and plastic can be commingled, but glass and oil cannot.

#### compaction station

A type of transfer station in which waste is compacted as an intermediate step before sending it to a disposal site.

## composite liner

A liner system that is composed of both natural soil liners and synthetic liners. The liner must be in direct and uniform contact with the clay.

#### composting

The controlled biological decomposition of organic solid materials under aerobic conditions.

#### condensate knock-out tank

A tank that uses a series of baffles to remove vapor moisture from a gas.

#### construction and demolition waste

Materials resulting from the construction, remodeling, repair, or demolition of buildings, bridges, pavements, and other structures.

#### converter

A company that creates a more usable material from a raw product.

#### conveying line

A conveyor belt assembly that is used in a facility such as a MRF or IPC, to move materials from the tipping floor/pit to other areas of the facility.

#### corrugated paper

Paper or cardboard having either a series of wrinkles or folds, or alternating ridges and grooves.

#### cover material

Material, either natural soil or geosynthetic material, used in a landfill to impede water infiltration, landfill gas emissions, and bird and rodent congregation. It is also used to control odors and make the site more visually attractive. Landfills have three forms of cover: daily cover, intermediate cover, and final cover.

#### cullet

Clean, usually color-sorted, crushed glass used to make new glass products.

## curbside collection

Programs in which recyclable materials are collected at the curb, often from special containers, and then taken to various processing facilities.

## D

## daily cell

In landfills, a portion of refuse that has been compacted and then surrounded with cover material. Daily cover is placed over the landfilled materials at the end of each day to complete the cell.

#### daily cover material

Material, usually soil, that is used in a landfill to cover the refuse after it has been compacted at the end of each day. The cover is placed mainly to ward off animals and for odor control.

#### decide-announce-defend strategy

In the decision-making process, a strategy in which decisions are made and announced without input from other affected parties. After announcing their decisions, policy makers defend them. This strategy does not allow for public participation in the decision-making process.

## densified refuse-derived fuel (D-RDF)

Refuse-derived fuel that has been compressed or compacted through such processes as pelletizing, briquetting, or extruding. Densifying materials makes them easier to handle or improves their burning characteristics.

#### detention basin

An excavated area of land that is used to collect surface water runoff for the purpose of creating a constant outflow from the basin.

#### detinning

Recovering tin from "tin" cans by a chemical process that makes the remaining steel more easily recycled.

## direct discharge noncompaction station

A type of transfer station in which refuse goes directly from smaller collection vehicles into the larger transportation vehicles. This type of station has a waste storage capacity of less than one day.

#### diversion rate

The amount of material being diverted for recycling, compared to the total amount that was previously disposed of.

#### double-liner system

A system in which two liners are used in a landfill to protect against groundwater contamination. The liners may by either synthetic or natural, and may be composed of several layers each.

#### double composite liner

A landfill liner system that uses synthetic and natural soil liners to prevent groundwater contamination. Two liners of each type are used, and each liner has several layers. (See "composite liner.")

#### drop-off collection

A method of collecting recyclable or compostable materials in which the materials are taken by individuals to collection sites, where they deposit the materials into designated containers.

## E

#### eco-shopping

See "precycling."

## electrostatic precipitators

Device for removing particulate matter from an incinerator facility's air emissions. It works by causing the particles to become electrostatically charged and then attracting them to an oppositely charged plate, where they are precipitated out of the flue gasses.

#### end-use market

A company that purchases recycled materials for use as feedstock in manufacturing new products.

#### energy recovery

Conversion of waste to energy, generally through the combustion of processed or raw refuse to produce steam. See "municipal waste combustion," and "incineration."

#### enterprise fund

A fund for a specific purpose that is self-supporting from the revenue it generates.

#### F

#### ferrous metals

Metals derived from iron. They can be removed from commingled materials using large magnets at separation facilities

#### flood plain

A region of land around a body of water, usually a river or stream, that is flooded on a regular basis, usually annually.

#### flue gas

All gasses and products of combustion that leave a furnace by way of a flue or duct.

#### fluidized bed combustor

A type of RDF combustor (see below) that burns materials directly on a layer of material having a high melting point, such as sand.

#### fly ash

Small, solid particles of ash and soot generated when coal, oil, or waste materials are burned. Fly ash is suspended in the flue gas after combustion and is removed by pollution control equipment.

## G

#### gas control and recovery system

A series of vertical wells or horizontal trenches containing permeable materials and perforated piping. The systems are designed to collect landfill gases for treatment or for use as an energy source.

#### gas monitoring probe

Probes placed in the soil surrounding a landfill above the groundwater table. The probes are used to determine if landfill gases are migrating away from the landfill.

#### gate volume

The amount of waste, measured by volume, that enters a landfill.

## Gaylord box

A heavy corrugated box (4 feet square) that is used as a dumpster for collecting wastes and other materials.

#### general obligation (G.O.) bonds

A method of financing in which bonds are backed by the faith and credit of a municipality.

## generation rate

The amount of waste that is produced over a given amount of time. For example, a district may have a generation rate of 100 tons per day.

#### geographic information system (GIS)

A system, usually computerized, that includes locations of all geographical characteristics of an area of land. Items may include elevation, houses, public utilities, or the location of bodies of water, aquifers, and flood plains.

#### geone

A synthetic liner component that facilitates drainage. A geonet is analogous to the sand component in natural liners.

## geotextile

A synthetic component that is used as a filter to prevent the passing of fine-grained material such as silt or clay. A geotextile may be placed on top of a drainage layer to prevent the layer from becoming clogged with fine material.

#### glassphalt

A mixture of asphalt that includes a small amount of finely crushed glass as an admixture.

#### grain size distribution

A method of categorizing soils in which soil particles are separated according to size. A well-graded soil has a uniform grain size distribution while a poorly graded soil has a non-uniform grain size distribution.

#### groundwater monitoring well

A well placed at an appropriate location and depth for taking water samples to determine groundwater quality in the area surrounding a landfill or other site.

## Н

#### hammermill

A type of crusher or shredder used to break materials up into smaller pieces.

#### hazardous waste

Waste material that exhibits a characteristic of hazardous waste as defined in RCRA (ignitability, corrosivity, reactivity, or toxicity), is listed specifically in RCRA 261.3 Subpart D, is a mixture of either, or is designated locally or by the state as hazardous or undesirable for handling as part of the municipal solid waste and would have to be treated as regulated hazardous waste if not from a household.

#### heat value

Heat generated per unit weight or volume of combustible material completely burned.

# HELP (hydrologic evaluation of landfill performance) Model

A specialized computer program that performs the water balance equation and aids in modeling by predicting leachate generation. By selecting different covers and liners, an optimum combination can be achieved.

#### humus

Organic materials resulting from decay of plant or animal matter. Also referred to as compost.

## hydraulic conductivity

A measurement of how fast a liquid can pass through the pores of a solid. Typically, the liquid is water and the solid is a soil of some type.

#### ı

#### incinerator

A facility in which solid waste is combusted.

#### industrial waste

Materials discarded from industrial operations or derived from manufacturing processes.

## infiltration layer

A low hydraulic conductivity layer in a landfill, usually a component in the cover, that is placed to minimize liquid infiltration to the waste layers.

#### inorganic waste

Waste composed of matter other than plant or animal (i.e., contains no carbon).

## institutional waste

Waste materials originating in schools, hospitals, prisons, research institutions, and other public buildings.

#### integrated solid waste management

A practice using several alternative waste management techniques to manage and dispose of specific components of the municipal solid waste stream. Waste management alternatives include source reduction, recycling, composting, energy recovery, and landfilling.

## intermediate processing center (IPC)

Usually refers to the type of materials recovery facility (MRF) that processes residentially collected mixed recyclables into new products available for markets; often used interchangeably with MRF.

#### in-vessel composting

A method in which compost is continuously and mechanically mixed and aerated in a large, contained area.

## K

#### knuckleboom crane

A crane with a bending or pivot point in the boom, which enables it to reach over a longer horizontal distance.

## L

## landfill gas

A mixture of primarily methane and carbon dioxide that is generated in landfills by the anaerobic decomposition of organic wastes.

#### landfill mining

A process of removing reusable resources from old landfills for recycling.

## lateral pipe

A pipe used to connect wells or trenches in a landfill.

#### leachate

Liquid that has percolated through solid waste or another medium and has extracted, dissolved, or suspended materials from it. Because leachate may include potentially harmful materials, leachate collection and treatment are crucial at municipal waste landfills.

#### leachate collection system

A network of pipes or geotextiles/geonets placed at low areas of the landfill liner to collect leachate from a landfill for storage and treatment. Flow of leachate along the liner is facilitated by the use of a soil drainage blanket or geonet.

#### lift

In landfilling, a lift is a completed layer of adjacent cells.

#### liner

A system of low-permeability soil and/or geosynthetic membranes used to collect leachate and minimize contaminant flow to groundwater. Liners may also adsorb or attenuate pollutants to further reduce contamination.

## M

## macrorouting (route balancing)

Creating collection routes by dividing a collection area into smaller areas representing one day of work for one crew.

#### magnetic separation

A system to remove ferrous metals from other materials in a mixed municipal waste stream. Magnets are used to collect the ferrous metals.

#### mass-burn system

A municipal waste combustion technology in which solid waste is burned in a controlled system without prior sorting or processing.

#### mechanical separation

The separation of waste into components using mechanical means, such as cyclones, trommels, and screens.

#### methane

An odorless, colorless, flammable, explosive gas produced by municipal solid waste undergoing anaerobic decomposition. Methane is emitted from municipal solid waste landfills.

#### microrouting

Takes the smaller areas created in macrorouting and defines specific route paths for collection crews to follow.

#### modular incinerator

Small, self-contained incinerators designed to handle small quantities of solid waste. Modules may be combined as needed, to match plant capacity with the quantity of waste to be processed.

#### monitoring well

A well that is used to detect items such as gas concentrations, water contamination, and leachate concentration. Wells are usually placed in and around landfills or compost facilities to monitor the migration of harmful substances from the facilities.

#### moisture content

The fraction or percentage of a substance or soil that is water

#### municipal (project) revenue bond

A method of financing in which bonds are given on the basis of the worthiness, technological feasibility, and projected revenue of a project.

## municipal solid waste (MSW)

MSW means household waste, commercial solid waste, nonhazardous sludge, conditionally exempt small quantity hazardous waste, and industrial solid waste.

#### mulch

Ground up or mixed yard trimmings placed around plants to prevent evaporation of moisture and freezing of roots and to nourish the soil.

## Ν

#### natural liner

A landfill liner that is made up of low-permeability soil.

#### NIMBY

Acronym for "not in my back yard." An expression frequently used by residents whose opposition to siting a waste management facility is based on the facility's proposed location.

## 0

#### organic material (organic waste)

Materials containing carbon. The organic fraction of MSW includes paper, wood, food scraps, plastics, and yard trimmings.

#### overlay maps

A series of individual maps, each of which shows specific data. The maps are placed on top of one another to form a composite map showing all the data.

## Ρ

#### particulate matter (PM)

Tiny pieces of matter resulting from the combustion process. PM can have harmful health effects when breathed. Pollution control at combustion facilities is designed to limit particulate emissions.

#### passive venting

A venting technique using the natural pressure created in landfills to expel gases and control gas migration.

#### pathogens

Disease-causing agents, especially microorganisms such as bacteria, viruses, and fungi.

#### percolate

To ooze or trickle through a permeable substance. Groundwater may percolate into the bottom of an unlined landfill.

#### permeable

Having pores or openings that permit liquids or gasses to pass through.

## permeability

A measure of how well a liquid moves through the pores of a solid. Expressed as a number applied to landfills in terms of how quickly water moves through soil; it is typically expressed as centimeters per second.

## phase diagram

A diagram (or series or diagrams) used to show chronological order in a project. The diagram should show key transition points and contain enough detail to move smoothly from phase to phase.

#### phasing

A system of running a project in more than one step (phase). Each phase is generally independent of the others, which offers more flexibility in management and operation.

## pilot program

A trial run of the planned program conducted on a small scale to forecast the workability of the planned program. Changes may be made to the program depending on the results of the pilot study.

#### platform/pit noncompaction station

A type of transfer station that has a waste storage capacity of several days or more. While the waste is in temporary storage, recyclable materials may be removed.

#### post-closure care

A procedure of maintaining the environmental controls and appearance of a landfill after it has ceased to accept waste.

## post-consumer recycling

The reuse of materials generated from residential and commercial waste, excluding recycling of material from industrial processes that has not reached the consumer, such as glass broken in the manufacturing process.

#### precycling

The decision-making process consumers use to judge a purchase based on its waste implications. Criteria include whether a product is reusable, durable, and repairable; made from renewable or nonrenewable resources; over-packaged; or in a reusable container.

#### primary leachate

When waste enters a landfill, it contains some amount of liquid, which leaches out of the refuse as primary leachate.

## R

#### recycling

The process by which materials otherwise destined for disposal are collected, reprocessed, or remanufactured, and are reused.

#### refractory

A material that can withstand dramatic heat variations. Used in conventional combustion chambers in incinerators

## refuse-derived fuel (RDF)

Product of a mixed waste processing system in which certain recyclable and non-combustible materials are removed, with the remaining combustible material converted for use as a fuel to create energy.

#### residential waste

Waste generated in single- and multiple-family homes.

#### residue

The materials remaining after processing, incineration, composting, or recycling. Residues are usually disposed of in landfills.

#### resource recovery

A term describing the extraction and use of materials and energy from the waste stream. The term is sometimes used synonymously with energy recovery.

#### retention basin

An area designed to retain precipitation runoff and prevent erosion and pollution.

#### reuse

The use of a product more than once in its same form for the same purpose; e.g., a soft drink bottle is reused when it is returned to the bottling company for refilling.

#### roll-off container

A large waste container that fits onto a tractor trailer that can be dropped off and picked up hydraulically.

## S

## salvaging

At landfills or material recovery facilities, salvaging is the controlled separation of recyclable and reusable materials. Controlled means that the separation is monitored by operators.

#### scavenging

At a landfill or material recovery facility, scavenging is the uncontrolled separation of recyclable and reusable materials. Uncontrolled means that the operator does not monitor the removal of materials, and in many cases prohibits it. Material scavenging of recyclables may also occur at the curb or at drop-off centers.

#### scavenger

One who illegally removes materials at any point in the solid waste management system.

#### scrap

Discarded or rejected industrial waste material often suitable for recycling.

#### scrubber

Common anti-pollution device that uses a liquid or slurry spray to remove acid gases and particulates from municipal waste combustion facility flue gases.

#### secondary leachate

When water percolates through a landfill, the water becomes contaminated and becomes leachate. This leachate is known as secondary leachate.

## secondary material

A material that is used in place of a primary or raw material in manufacturing a product.

#### sedimentation basin

An excavated area of land that is used to allow solid particles in water to settle out. The rate of sedimentation is dependent on the depth of the basin and the size and weight of the particles.

#### settlement

As refuse decomposes and/or becomes compacted by the weight of overlaying layers, landfills experience a volume decrease and compaction of individual layers of waste in the landfill. Settlement refers to this volume decrease and compaction of layers.

#### sludge

A semi-liquid residue remaining from the treatment of municipal and industrial water and wastewater.

#### shreddei

A mechanical device used to break waste materials into smaller pieces by tearing and impact action. Shredding solid waste is done to minimize its volume or make it more readily combustible.

## silviculture

The cultivation of trees.

#### soil cut-and-fill balances

A technique used to create the same amount of earth cut as fill for a specified area of land. The excess soil is placed where it is needed in low areas. This helps minimize construction costs.

#### soil boring

A sample of earth representing underground conditions for the surrounding area. They are used to gather information about and model subsurface characteristics, which are important when designing landfills.

#### solid waste

Any garbage, or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. 1342, or source, special nuclear, or by-product materials as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923). (Definition from 40CFR 258.2.)

#### source reduction

The design, manufacture, acquisition, and reuse of materials so as to minimize the quantity and/or toxicity of waste produced. Source reduction prevents waste either by redesigning products or by otherwise changing societal patterns of consumption, use, and waste generation. (See also, "waste reduction.")

#### source separation

The segregation of specific materials at the point of generation for separate collection. Residential generators source separate recyclables as part of curbside recycling programs.

#### special waste

Refers to items that require special or separate handling, such as household hazardous wastes, bulky wastes, tires, and used oil.

#### Subtitle C

The hazardous waste section of the Resource Conservation and Recovery Act (RCRA) of 1976.

## Subtitle D

The solid, nonhazardous waste section of the Resource Conservation and Recovery Act (RCRA) of 1976.

#### Subtitle F

Section of the Resource Conservation and Recovery Act (RCRA) of 1976 requiring the federal government to actively participate in procurement programs fostering the recovery and use of recycled materials and energy.

## Superfund

Common name for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to clean up abandoned or inactive hazardous waste dump sites.

#### swale

An elongated trench that is used to collect and direct the flow of surface water runoff.

## synthetic liner

A type of liner consisting of a plastic membrane, instead of soil. Synthetic liners are less permeable, thinner, and more flexible than soil liners.

#### Т

## test pit

Pat of an investigative procedure in which a backhoe or similar piece of equipment excavates a deep trench in the earth in order to allow subsurface investigation.

#### thermophilic microorganisms

Heat-loving microorganisms that thrive in and generate temperatures above 105 degrees Fahrenheit.

#### tipping fee

A fee charged for the unloading or dumping of material at a landfill, transfer station, recycling center, or waste-toenergy facility, usually stated in dollars per ton. (Sometimes called a disposal or service fee.)

#### tipping floor/pit

Unloading area for vehicles that are delivering municipal solid waste to a transfer station or municipal waste combustion facility.

#### transfer station

A permanent facility where waste materials are taken from smaller collection vehicles and placed in larger vehicles for transport, including truck trailers, railroad cars, or barges. Recycling and some processing may also take place at transfer stations.

#### trommel

A perforated, rotating, horizontal cylinder that may be used in resource recovery facilities to break open trash bags, remove glass in large enough pieces for easy recovery, and remove small abrasive items such as stones and dirt. Trommels have also been used to remove steel cans from incinerator residue.

#### tub grinder

Machine used to grind or chip wood for mulching, composting or size reduction.

## V

## vadose zone

The zone between the land surface and the water table.

#### volatile organics

Organic compounds that vaporize at relatively low temperatures or are readily converted into a gaseous by-product.

## volatilization

A process in which gases are produced and escape into the atmosphere. In landfills, methane volatilization is of concern.

#### volume-based fees

A fee paid to dispose of material at a facility such as a landfill, based on the volume of the material being disposed of.

## W

#### waste combustion

The combustion of MSW in an incinerator to produce electrical or thermal energy. The MSW may be sorted or non-sorted, and may also be processed before incineration.

#### waste management boundary

The boundary around the area occupied by the waste in a landfill, measured in terms of area.

#### waste exchange

A computer and catalog network that redirects waste materials back into the manufacturing or reuse process by matching companies generating specific wastes with companies that use those wastes as manufacturing inputs.

#### waste reduction

Waste reduction is a broad term encompassing all waste management methods—source reduction, recycling, composting—that result in reduction of waste going to a combustion facility or landfill.

#### waste stream

A term describing the total flow of solid waste from homes, businesses, institutions and manufacturing plants that must be recycled, burned, or disposed of in landfills; or any segment thereof, such as the "residential waste stream" or the "recyclable waste stream."

## waste-to-energy system (WTE)

A method of converting MSW into a usable form of energy, usually though combustion.

#### wastewater

Water that is generated, usually as a by-product of a process, that cannot be released into the environment without some type of treatment.

#### water balance

An equation that is used to model and predict the amounts of water that will go to various destinations. Typical destinations include evaporation, infiltration, and run-off. The sum of the amounts to the destinations must be equal to the source of the water (usually precipitation).

## water table

The level below the earth's surface at which the ground becomes saturated with water. Landfills and composting facilities are designed with respect to the water table in order to minimize potential contamination.

#### waterwall incinerator

Waste combustion facility using lined steel tubes filled with circulating water to cool the combustion chamber. Heat from the combustion gases is transferred to the water. The resultant steam is sold or used to generate electricity.

## wet/dry collection systems

A collection system that allows wet organic materials to be separated by generators from dry wastes. Wet organic materials are suitable for composting, while dry materials are non-organics that may include recyclables.

## wetlands

An area that is regularly wet or flooded and has a water table that stands at or above the land surface for at least part of the year. Coastal wetlands extend back from estuaries and include salt marshes, tidal basins, marshes, and mangrove swamps. Inland freshwater wetlands consist of swamps, marshes, and bogs. Federal regulations apply to landfills sited near or at wetlands.

#### wet scrubber

Anti-pollution device in which a lime slurry (dry lime mixed with water) is injected into the flue gas stream to remove acid gases and particulates.

## white goods

Large household appliances such as refrigerators, stoves, air conditioners, and washing machines.

#### windrow

A large, elongated pile of composting material, which has a large exposed surface area to encourage passive aeration and drying.

## working face

The area of the landfill that is currently being filled with refuse. The refuse is typically placed in cells. The open face where refuse is being unloaded and compacted is the working face.



#### yard trimmings

Leaves, grass clippings, prunings and other natural organic matter discarded from yards and gardens. Yard trimmings may also include stumps and brush, but these materials are not normally handled at composting facilities.

## Note on Sources

Some of the definitions in this glossary were taken with permission from Rynk, et al., *On-Farm Composting Handbook* (NRAES-54). This publication is available from NRAES, Cooperative extension, 152 Riley-Robb Hall, Ithaca, NY 14853-5701, (607) 255-7654.



# MSW PUBLICATIONS

The following publications are available at no charge from the EPA RCRA/Superfund Hotline at 800/424-9346.

GENERAL	
530-S-94-042	Characterization of Municipal Solid Waste in the United States: 1994. Update; Executive Summary
530/SW-89-072	Decision-Maker's Guide to Solid Waste Management
530-F-94-009	Environmental Fact Sheet: EPA Sets Degradability Standards for Plastic Ring Carriers
530-F-92-024	Green Advertising Claims (Brochure)
530-K-93-001	Joining Forces on Solid Waste Management: Regionalization is Working in Rural Communities
530-C-95-001	MSW Factbook (3-1/2" diskette)
530/SW-89-051a	Report to Congress: Methods to Mange and Control Plastic Wastes; Executive Summary
530-K-93-002	Reporting on Municipal Solid Waste: A Local Issue
530/SW-90-019	Sites for Our Solid Waste: A Guidebook for Public Involvement
530/SW-90-020	Siting Our Solid Waste: Making Public Involvement Work (Brochure)
530/SW-89-019	Solid Waste Dilemma: An Agenda for Action
530-K- 94-002	Solid Waste Resource Guide for Native Americans: Where to Find Funding and Technical Assistance
530-R-92-015	Waste Prevention, Recycling, and Composting Options: Lessons from 30 Communities
NTIS PB 94-100-450	Solid Waste Disposal Facility Criteria: Technical Manual

## **WASTE PREVENTION (SOURCE REDUCTION)**

530-K-92-003	The Consumer's Handbook for Reducing Solid Waste
530-K-92-004	A Business Guide for Reducing Solid Waste
530/SW-89-015c	Characterization of Products Containing Lead and Cadmium in Municipal Solid Waste in the United States, 1970 to 2000; Executive Summary
530-S-92-013	Characterization of Products Containing Mercury in Municipal Solid Waste in the United States, 1970 to 2000, Executive Summary
530-F-92-016	Environmental Fact Sheet: Municipal Solid Waste Prevention in Federal Agencies
530-F-92-012	Environmental Fact Sheet: Recycling Grass Clippings
530-R-94-004	Pay as You Throw: Lessons Learned About Unit Pricing
530/SW-91-005	Unit Pricing: Providing an Incentive to Reduce Waste (Brochure)
530/SW-90-084a	Variable Rates in Solid Waste: Handbook for Solid Waste Officials; Executive Summary
530-F-93-008	Waste Prevention: It Makes Good Business Sense (Brochure)
530-K-92-005	Waste Prevention Pays Off: Companies Cut Waste in the Workplace
530-F-93-018	WasteWise: EPA's Voluntary Program for Reducing Business Solid Waste
530-F-94-006	WasteWise Tip Sheet: Facility Waste Assessments
530-F-94-003	WasteWise Tip Sheet: Waste Prevention
530-F-94-002	WasteWise Tip Sheet: WasteWise Program Road Map

RECYCLING	
530-F-95-005	Environmental Fact Sheet: Recycling Municipal Solid Waste, 1994: Facts and Figures
530/S-91-009	Environmental Fact Sheet: Yard Waste Composting
530-F-92-014	Federal Recycling Program (Brochure)
530-F-94-007	How to Start or Expand a Recycling Collection Program (Fact Sheet)
530-F-94-026	Jobs Through Recycling Initiative (Fact Sheet)
530-R-95-001	Manufacturing from Recyclables: 24 Case Studies of Successful Enterprises
530/SW-91-011	Procurement Guidelines for Government Agencies
530-F-92-003	Recycle: You Can Make a Ton of Difference (Brochure)
530-H-92-001	Recycle: You Can Make a Ton of Difference (Poster)
530/SW-90-082	Recycling in Federal Agencies (Brochure)
530/SW-89-014	Recycling Works: State and Local Success Stories
530-R-93-011	Report to Congress: A Study of the Use of Recycled Paving Materials
530/SW-90-073b	Summary of Markets for Compost
530/SW-90-072b	Summary of Markets for Recovered Aluminum
530/SW-90-071b	Summary of Markets for Recovered Glass
530/SW-90-074b	Summary of Markets for Scrap Tires
530-F-94-005	WasteWise Tip Sheet: Buying or Manufacturing Recycled Products
530-F-94-004	WasteWise Tip Sheet: Recycling Collection

# HOUSEHOLD HAZARDOUS WASTE

530-R-92-026	Household Hazardous Waste Management: A Manual for One-Day Community Collection Programs
530-F-92-031	Household Hazardous Waste: Steps to Safe Management (Brochure)
530-K-92-006	Used Dry Cell Batteries: Is a Collection Program Right for Your Community?

# INCINERATION

530/SW-90-029b	Characterization of Municipal Waste Combustion Ash, Ash Extracts, and Leachates; Executive Summary
530-F-94-020	Sampling and Analysis of Municipal Refuse Incinerator Ash

## **LANDFILLING**

530/SW-91-089	Criteria for Solid Waste Disposal Facilities: A Guide for Owners/Operators
530-F-93-024	Environmental Fact Sheet: Some Deadlines in Federal Landfill Regulations Extended; Extra Time Provided to Landfills in Midwest Flood Regions
530-K-94-001	Municipal Solid Waste Landfill Permit Programs: A Primer for Tribes
530/SW-91-092	Safer Disposal for Solid Waste: The Federal Regulation of Landfills
530-Z-93-012	Solid Waste Disposal Facility Criteria; Delay of Effective Date; Final Rule; October 1, 1993 (includes the correction published October 9, 1991)
OSWFR91004	Solid Waste Disposal Facility Criteria; Final Rule; October 9, 1991
539-R-93-017	Solid Waste Disposal Facility Criteria: Technical Manual. MTIS # PB 94-100-450

# **USED OIL**

530-F-94-008	Collecting Used Oil for Recycling/Reus	e: Tips for Consumers Who Change Their Own Moto	or Oil
	and Oil Filters (Brochure)		

530/SW-89-039a	How to Set Up a Local Program to Recycle Used Oil
530/SW-89-039d	Recycling Used Oil; For Service Stations and Other Vehicle-Service Facilities (Brochure)
530/SW-89-039b	Recycling Used Oil: What Can You Do? (Brochure)

## **EDUCATIONAL MATERIALS**

530/SW-90-024	Adventures of the Garbage Gremlin: Recycle and Combat a Life of Grime (Comic Book)
530/SW-90-005	Let's Reduce and Recycle: A Curriculum for Solid Waste Awareness
530/SW-90-025	Recycle Today: Educational Materials for Grades K-12 (Brochure)
530/SW-90-010	Ride the Wave of the Future: Recycle Today! (Poster)
530/SW-90-023	School Recycling Programs: A Handbook for Educators

## **NEWSLETTERS**

Free Subscriptions and back issues are available by calling the EPA RCRA/Superfund Hotline at 800 424-9346.

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Reusable News

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# **PUBLICATIONS AVAILABLE FROM NTIS**

The following publications are available for a fee from the National Technical Information Service (NTIS). Call 703 847-4650 for price and ordering information.

PB89-220 578	Analysis of U.S. Municipal Waste Combustion Operating Practices
PB95-147 690	Characterization of Municipal Solid Waste in the United States: 1994 Update
PB91-111 484	Changing Households for Waste Collection and Disposal: The Effects of Weight- or Volume-Based Pricing on Solid Waste Management
PB94-163-250	Composting Yard Trimmings and Municipal Solid Waste
PB94-136 710	List of Municipal Solid Waste Landfills
PB94-100 138	Markets for Compost
PB94-100 450	Solid Waste Disposal Facility Criteria: Technical Manual (EPA 530-R-93-017)
PB93-170 132	Markets for Recovered Aluminum
PB93-169 845	Markets for Recovered Glass
PB92-115 252	Markets for Scrap Tires
PB87-206 074	Municipal Waste Combustion Study: Report to Congress
PB90-199 431	Office Paper Recycling: An Implementation Manual
PB92-162 551	Preliminary Use and Substitutes Analysis of Lead and Cadmium in Products in Municipal Solid Waste
PB90-163 122	Promoting Source Reduction and Recyclability in the Marketplace
PB92-100 841	Regulatory Impact Analysis for the Final Criteria for Municipal Solid Waste Landfills
PB92-100 858	Addendum for the Regulatory Impact Analysis for the Final Criteria for Municipal Solid Waste Landfills
PB88-251 137	Solid Waste Dilemma: An Agenda for Action; Background Document
PB88-251 145	Solid Waste Dilemma: An Agenda for Action; Background Document; Appendices
PB92-119 965	States' Efforts to Promote Lead-Acid Battery Recycling
PB90-272 063	Variable Rates in Solid Waste: Handbook for Solid Waste Officials
PB90-163 144	Yard Waste Composting: A Study of Eight Programs